August 24, 1987

W65541.PM

Ms. Alice C. Fuerst
U.S. Environmental Protection
Agency, Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Ms. Fuerst:

In accord with your August 18, 1987 letter, we have developed a task list, schedule, and budget estimate for the Alternative Water Supply Operable Unit Feasibility Study (OUFS) for the Galena Subsite at Cherokee County. These are presented in the enclosure.

The schedule identifies several key milestones and decision points that must be attained to meet the October 31, 1987, public draft review goal.

Your review and comments are needed by August 28, 1987. We look forward to your review and concurrence with our plan and the prompt execution of this challenging assignment.

Sincerely,

Richard Moos

Richard Moos
Site Manager

DE/CC7/034/sma
Enclosure
cc: Gale Wright/EPA, KCK
Bob Ogg, APM-OPNS/CH2M HILL, WDC
Mike Thompson, RM/CH2M HILL, KCK
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CHEROKEE COUNTY SITE
GALENA SUBSITE
ALTERNATIVE WATER SUPPLY
OPERABLE UNIT FEASIBILITY STUDY

This task description has been prepared as directed by an August 18, 1987 letter from Region VII directing CH2M HILL to prepare a task list and description and a cost estimate for an Alternative Water Supply Operable Unit Feasibility Study (OUFS) for the Galena Subsite. This study will encompass that area where residents rely currently on the shallow groundwater system for drinking water. As reported in the Phase I Remedial Investigation and succeeding draft documents, water samples taken from some domestic wells in this area contained inorganics (metals) at concentrations exceeding maximum contaminant levels (MCL's). Tasks identified to complete this OUFS are:

GO--Identify Goals, Objectives, and ARAR's for the OUFS
DF--Data Collection and Evaluation
AT--Identify Applicable Alternative Technologies
AD--Alternatives Development and Screening
AE--Detailed Evaluation of Alternatives
RF--OUFS Report Preparation
QC--Quality Control
CR--Community Relations
RS--Responsiveness Summary
PM--Project Management

Descriptions for the activities to be conducted in these tasks follow. Also included are a schedule and cost estimate. In all of these tasks we will make maximum use of information prepared in previous activities to support the Groundwater OUFS.

TASK GO--GOALS AND OBJECTIVES

Activities to be performed in this task are:

- Prepare goals and objectives and review with Region VII.
- Assist EPA and KDHE in defining contaminant, location, and action specific ARAR's and review with Region VII.
- Conduct conference call meeting with Region VII and KDHE to finalize goals and objectives and ARAR's.

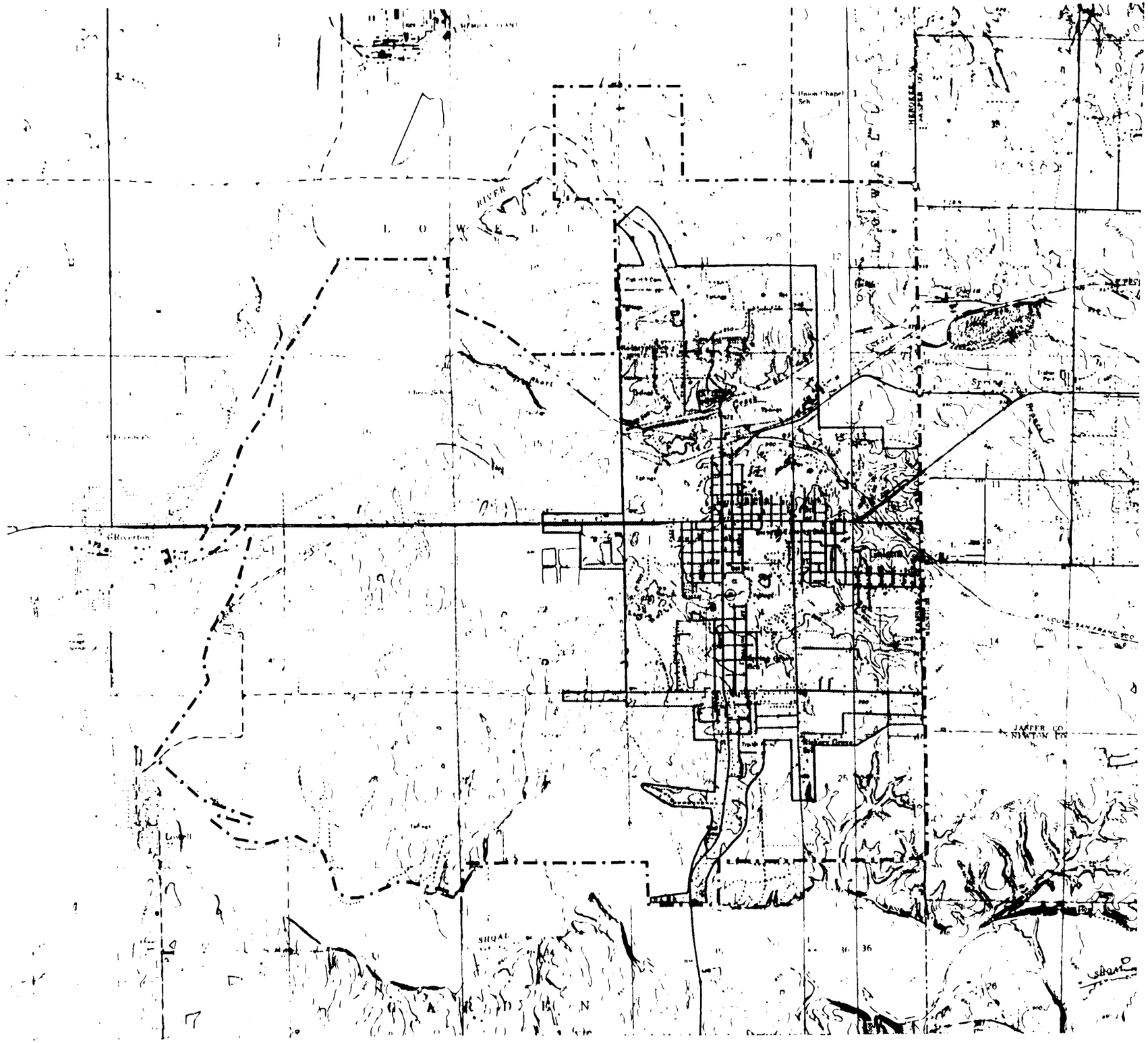
TASK DF--DATA COLLECTION AND EVALUATION

The existing data base assembled for previous activities will be used to support this OUFS. Additional information and analyses will be needed for this OUFS. Additional data needs include:

- Finalize service area (see Figure 1 for proposed service area)
- Identify potential, existing public water systems for consideration as supply sources and gather system data (Galena, Joplin, Riverton, and Baxter Springs)
- Compile water quality data on potential sources for treatment requirements (shallow aquifer, deep aquifer, and Spring River)
- Compile water quantity data on potential sources
- Obtain published population data on service area (present levels and future trends)
- Conduct house counts from aerial photos and check against previous door-to-door survey data
- Identify major industrial and commercial water users in service area
- Obtain data on water rights for source alternatives
- Obtain data on state and local regulations governing public water systems and surface intake and well installation

Analyses on these data will include:

- Compilation of population data to determine quantity requirements
- Identification of ground and surface water sources capable of providing adequate quantity and suitable or treatable quality water
- Evaluation of existing systems to determine expansion potential
- Evaluation of institutional requirements and limitations on new supply system



LEGEND

LIMIT OF ALTERNATE WATER SUPPLY SYSTEM STUDY AREA

AREA SERVICED BY THE GALENA MUNICIPAL WATER SUPPLY

N

0 1/2 1

SCALE IN MILES

FIGURE 1
ALTERNATE WATER SUPPLY SYSTEM STUDY AREA
CHEROKEE CO., KANSAS
GALENA SUBSITE

TASK AT--ALTERNATIVE TECHNOLOGIES

This task will generate the technologies applicable to the specific requirements of this OUFS from the general technologies available to accomplish the establishment of an alternative water supply system.

- o Develop evaluation criteria for technologies
- o Review general alternative technologies list for applicability to the site
- o Prepare list of technologies to be included and review with Region VII and KDHE.

TASK AD--ALTERNATIVES DEVELOPMENT

Once the needs and constraints have been identified for the alternative water supply system (AWSS), the applicable technologies will be assembled into remedial action alternatives. A "no action" alternative will be included in the alternatives evaluated. Activities in this task include:

- o Assemble applicable technologies into alternative remedial actions
- o Comparatively evaluate action alternatives and develop short list of alternatives for detailed evaluations
- o Transmit recommended short list to EPA for review via conference call
- o Revise final alternatives list based on conference call

TASK AE--ALTERNATIVES EVALUATION

Each remedial action alternative description will be conceptual but clearly summarized. For each of the three to five potential alternatives, the description will include:

- o Preparation of a schematic plan diagram and conceptual layout of basic alternative components: design criteria, and other basic information
- o A listing of required treatment technologies
- o Major equipment needs and utility requirements
- o Special engineering considerations

- o Preliminary implementation considerations, long-term monitoring requirements, and schedules

- o Length of operation and maintenance periods required to achieve objectives

DETAILED ENVIRONMENTAL EVALUATION

A detailed environmental analysis will be performed for each alternative. The following factors are to be addressed in this evaluation:

- o Adverse or beneficial environmental impacts, including consideration of the alternative's effectiveness in mitigating adverse effects for both short- and long-term periods

- o Site-specific physical, legal, and institutional constraints

- o Public and environmental health assessment information (as available)

- o CERCLA, SARA, and other regulatory compliance (as directed and identified by EPA, Region VII)

DETAILED ECONOMIC ANALYSIS

Capital, operating, and maintenance costs will be estimated for each potential AWS alternative. These cost estimates will be as complete as possible within the constraints of the project descriptions and the data available on the sources and the service area.

A present-worth analysis will be prepared for each alternative. The alternatives can then be compared on an equal economic basis. A detailed summary of the cost estimates and present-worth analyses will be presented in an appendix to the OUFS Report.

Cost estimates for each alternative will be prepared considering cost data in the U.S. EPA's "Compendium of Costs of Remedial Technologies at Hazardous Waste Sites," the 1985 Means Site Work Cost Data guide, the Cost Reference Guide for Construction Equipment dated 1985, cost estimates for similar projects, and estimates provided by equipment vendors, publicly owned treatment works (POTW's), and local water purveyors. The costs will be order-of-magnitude level estimates, which requires that cost estimates have an expected accuracy of +50 and -30 percent. The estimated present-worth calculations for all remedial alternatives

evaluated will be based on a 30-year period and 10-percent interest rate.

DETAILED TECHNICAL EVALUATION

The technical and engineering aspects for each alternative will be evaluated using the following criteria:

- Performance, including effectiveness as a long-term solution to the service area's water supply problems and useful life of the solution
- Reliability, including operation and maintenance requirements and demonstrated performance
- Implementability, including time to construct and constructability
- Practicality as a solution in meeting objectives for the alternative water system
- Safety to the public and environment
- Established or innovative technology
- Suitability for control of the problem and for achievement of the remedial action goals and objectives

DETAILED INSTITUTIONAL ANALYSIS

The institutional aspects of each alternative are to be evaluated in the following areas:

- CERCLA and SARA compliance with other environmental statutes, including State of Kansas and local government regulations and requirements
- Compliance with the National Environmental Policy Act (NEPA), the NCP, and SARA
- Coordination aspects with other agencies that may be involved with the project site
- Community relations requirements

DETAILED PUBLIC HEALTH SCREENING

Public health issues will be evaluated for each alternative. The evaluation criteria include:

- Public Health Assessment data, if available, including risk assessment and exposure assessment information
- Comparison of appropriate alternatives to applicable or relevant environmental standards, advisories, or criteria; ability of each alternative to meet these standards, advisories, or criteria

TASK RF--PREPARATION OF OUFS REPORT

The results of Tasks GO through AE will be summarized and incorporated into a draft OUFS report. Topics to be included in the report are listed below:

- Introduction
- Site description and characterization
- Public health assessment
- Scoping of response actions and screening of associated technologies
- Development of alternatives
  - Identification of action-specific ARAR's
- Initial screening of alternatives
- Detailed analysis of alternatives
- Comparative summary of alternatives
- Appendixes

The draft report will be reviewed with Region VII and a final document prepared incorporating review comments.

TASK QC--QUALITY CONTROL

The quality control task assists the site manager (SM) in achieving project goals and producing quality deliverables. For this OUFS, the review team will consist of senior staff

familiar with the Cherokee County site and the conceptual and final design of public water supply systems. Activities that this team will be responsible for include:

- Provide guidance on the development of goals and ARAR's
- Assist with development of technology lists and remedial alternatives and screening
- Participate in interim reviews with the SM and Region VII
- Review draft and final reports

TASK CR--COMMUNITY RELATIONS

EPA Region VII has requested limited technical support at the public meeting in Galena that will occur near the end of the public comment period. The SM, activity manager, and one community relations (CR) specialist will attend the meeting to assist EPA. The SM and activity manager will brief the CR person concerning technical issues and project history prior to the meeting. Also, a local service will be subcontracted to provide an official transcript of the meeting. The CR specialist will take notes at the public meeting and prepare a summary of the comments immediately following the meeting. This CR task includes the travel budget for the SM, activity manager, and CR specialist, cost for the meeting transcript, and labor for preparing for and attending the public meeting and preparing the summary of comments.

TASK RS--RESPONSIVENESS SUMMARY AND ROD

Region VII may receive numerous comments to the Final Draft OUFS Report for Alternative Water Supply at the Galena subsite. Several of the comments, which might come from individuals, PRP's, public interest groups, various industries, governmental entities, and other groups, will probably focus on technical issues related to the OUFS. CH2M HILL, at EPA's request, will assist Region VII in preparing the final responsiveness summary (especially responses to technical issues) upon receipt of the questions/comments to be addressed. Activities that might potentially be undertaken as part of the CH2M HILL assistance may include document and public record review, report preparation, distribution of documents, and attendance at or preparation for briefings and meetings not anticipated as part of other OUFS activities.

The extent of CH2M HILL's participation with EPA on this task is not defined at this point. With this in mind, fifty-eight (58) hours of senior technical staff time has been budgeted, along with limited graphics and secretarial support (10 hours), to allow for that level of assistance to Region VII.

The record of decision (ROD) will be written by EPA which will set forth the chosen remedial action or combination of remedial actions to be designed and implemented. A limited CH2M HILL budget has been established to provide assistance to EPA during the development of the ROD. Examples of ROD technical support might include answering questions on the OUFS for Galena subsite groundwater and surface water, reviewing the technical content of the ROD documents, and assisting EPA staff in preparing briefing materials or visual aids. A total of forty-six (46) professional labor hours and six (6) labor hours for graphics and word processing are included in the cost estimate figures.

TASK PM--ACTIVITY MANAGEMENT

The alternative water supply OUFS activity manager is responsible for budget and schedule control and technical reporting. Functions to be performed as part of activity management include:

- Developing the work plan and schedule
- Assisting the SM in selecting staff and coordinating the schedule for tasks within this OUFS activity
- Monitoring the involvement and performance of in-house staff and subcontractors
- Monitoring project performance and providing day-to-day guidance of the activity, including updates of the schedules and manpower requirements, as well as participating in and influencing technical issues and coordinating the quality control reviews
- Preparing monthly technical status reports
- Coordinating all other project activities
- Scheduling internal meetings with project staff

PROGRAM SCHEDULE

Following is a list of milestones for the alternative water supply OUFS. This schedule meets the Region VII proposed deadline of October 31, 1987, for the final draft report for public review.

Prepare Work Scope and Budget	Aug. 17-21
Technology Screening and Preliminary List of Alternatives	Aug. 24-Sep. 3
Conference Call--Technology Screening	Sep. 4
Screen Preliminary Alternatives	Sep. 4-16
Workshop with EPA/KDHE/COE	Sep. 16-17
Detailed Evaluation of Alternatives	Sep. 7-30
Draft OUFS Chapters 1-5	Sep. 1-18
EPA Review of Chapters 1-5	Sep. 21-Oct. 2
Draft OUFS Chapters 6-9	Sep. 14-Oct. 2
Complete Draft OUFS	Oct. 2
EPA Review of Draft OUFS	Oct. 5-16
Prepare Final Draft OUFS	Oct. 19-30
Public Meeting	Nov. 3
PRP Meeting	Nov. 4
Assist EPA--RS and ROD	Nov. 9-Dec. 8

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ALTERNATIVE WATER SUPPLY OUFS
BUDGET ESTIMATE

The following tables present both a summary and task detail costs for the Alternative Water Supply OUFS for the Galena subsite of the Cherokee County site.